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IS 3092 (1982): Rubber Draining and Tapping Knife [FAD 21: Farm Implements and Machinery]



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“Knowledge is such a treasure which cannot be stolen”

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IS : 3092 - 1982

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Indian Standard
SPECIFICATION FOR
RUBBER DRAINING AND TAPPING KNIFE
(*First Revision*)

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INDIAN STANDARDS INSTITUTION
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

Indian Standard

SPECIFICATION FOR RUBBER DRAINING AND TAPPING KNIFE (*First Revision*)

Horticultural Equipment Sectional Committee, AFDC 44

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Indian Standard
SPECIFICATION FOR
RUBBER DRAINING AND TAPPING KNIFE
(*First Revision*)

0. FOREWORD

0.1 This Indian Standard (First Revision) was adopted by the Indian Standards Institution on 30 September 1982, after the draft finalized by the Horticultural Equipment Sectional Committee had been approved by the Agricultural and Food Products Division Council.

0.2 The rubber draining and tapping knife has a blade attached to a wooden handle and is designed to have a V-shaped cutting edge to make narrow channels in the bark of the rubber tree. This serves to open the latex cells and to facilitate easy tapping and draining of latex from the tree.

0.3 This standard, covering the requirements of rubber draining and tapping knife, was published in 1965. A need was felt to revise the standard in order to up date it and to align it with other standards on similar products.

0.4 The figure given in the standard is meant for illustration only and should not be considered as suggestive of any standard design.

0.5 For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test, shall be rounded off in accordance with IS : 2-1960*. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

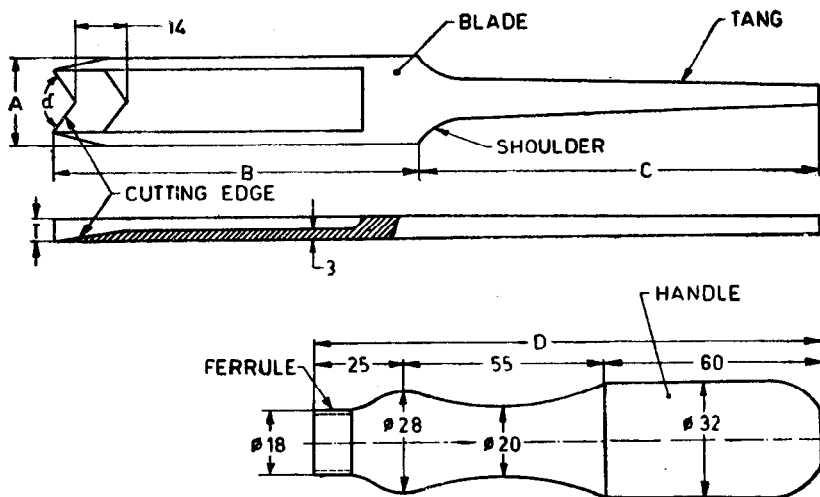
1. SCOPE

1.1 This standard specifies material, dimensions and other requirements for rubber draining and tapping knife (hereinafter referred to as knife).

*Rules for rounding off numerical values (*revised*).

2. NOMENCLATURE

2.1 For the purpose of this standard, the nomenclature of various terms shall be as given in Fig. 1.



All dimensions in millimetres.

FIG. 1 RUBBER DRAINING AND TAPPING KNIFE

3. MATERIAL

3.1 Blade — The blade of the knife shall be manufactured from carbon steel or alloy steel or tool steel.

3.1.1 The chemical composition of the carbon steel shall be as follows:

- Carbon 0.7 to 0.9 percent;
- Silicon 0.1 to 0.4 percent;
- Manganese 0.5 to 1.0 percent;
- Sulphur 0.05 percent, *Max*; and
- Phosphorus 0.05 percent, *Max*.

3.1.1.1 Some of the typical carbon steels that may be used are : C 75, C 80 and C 85 grades [see IS : 1570 (Part II)-1979*].

*Schedules for wrought steels for general engineering purposes: Part II Carbon steel (unalloyed steel) (*first revision*).

3.1.2 Alloy steel preferably conforming to Grade 16 NiCr2Mo20, 37 Si2 Mn90 or 37 Mn2 of IS : 4367-1967* may be used.

3.1.3 Tool steel preferably conforming to Grade T 75 or T 85 of IS : 4367-1967* may be used.

3.2 Handle — Timber (*see* Appendix D of IS : 620-1975†) shall be used.

3.3 Ferrule — Mild steel (*see* IS : 226-1975‡) or brass (*see* IS : 410-1976§) shall be used.

4. HARDNESS

4.1 The blade of the knife shall be heat-treated to give a hardness within the range of 450 HV to 500 HV (*see* IS : 1501-1959||).

5. DIMENSIONS

5.1 The width of the cutting edge (*see* *A* in Fig. 1) shall be 25.0 ± 0.5 mm.

5.2 The length of the blade (*see* *B* in Fig. 1) shall be 100 ± 3 mm.

5.3 The length of the tang (*see* *C* in Fig. 1) shall be 110 ± 3 mm.

5.4 The length of the handle (*see* *D* in Fig. 1) shall be 140 ± 3 mm.

5.5 The minimum thickness of the blade (*see* *T* in Fig. 1) shall be 6.0 mm.

5.6 The angle of cutting edge (*see* α in Fig. 1) shall be 105 ± 3 .

5.7 Other dimensions given in Fig. 1 are for guidance only.

6. OTHER REQUIREMENTS

6.1 The blade of the knife shall be forged.

6.2 The blade shall have a sharp V-shaped cutting edge.

6.3 The tang shall have a shape which is a good fit in the handle.

6.4 A ferrule shall be rigidly attached to the handle. The thickness of the ferrule shall be minimum 1.5 mm.

*Specification for alloy and tool steel forgings for general industrial use.

†General requirements for wooden tool handles (*second revision*).

‡Specification for structural steel (standard quality) (*first revision*).

§Specification for rolled brass sheet, strip and foil (*third revision*).

||Method for Vickers hardness test for steel.

7. TEST

7.1 The knife shall be held perpendicular to a piece of dry hard wood and dropped from a height of 300 mm. This shall be repeated not less than three times. The V-shaped edge shall not show any sign of wear or deformity after the test.

8. WORKMANSHIP AND FINISH

8.1 The knife shall be free from cracks, seams, pits and other visual defects.

8.2 The handle shall be finished smooth.

8.3 The blade shall be smeared all over with a suitable mineral jelly or any other rust preventive paint. The handle may be varnished.

9. MARKING AND PACKING

9.1 Marking — The knife shall be marked with the following particulars on its blade:

- a) Manufacturer's name or recognized trade-mark, if any; and
- b) Batch or code number.

9.1.1 Each knife may also be marked with the ISI Certification Mark.

NOTE — The use of the ISI Certification Mark is governed by the provisions of the Indian Standards Institution (Certification Marks) Act and the Rules and Regulations made thereunder. The ISI Mark on products covered by an Indian Standard conveys the assurance that they have been produced to comply with the requirements of that standard under a well-defined system of inspection, testing and quality control which is devised and supervised by ISI and operated by the producer. ISI marked products are also continuously checked by ISI for conformity to that standard as a further safeguard. Details of conditions under which a licence for the use of the ISI Certification Mark may be granted to manufacturers or processors may be obtained from the Indian Standards Institution.

9.2 Packing — The knife shall be packed, for safe handling in transit and storage, and as agreed to between the purchaser and the supplier.

10. SAMPLING FOR LOT ACCEPTANCE

10.1 Unless otherwise agreed to between the purchaser and the supplier, sampling of the knife for lot acceptance shall be done in accordance with 3 of IS : 7201-1974*.

*Method of sampling of agricultural machinery and tractors.

INTERNATIONAL SYSTEM OF UNITS (SI UNITS)

Base Units

QUANTITY	UNIT	SYMBOL
Length	metre	m
Mass	kilogram	kg
Time	second	s
Electric current	ampere	A
Thermodynamic temperature	kelvin	K
Luminous intensity	candela	cd
Amount of substance	mole	mol

Supplementary Units

QUANTITY	UNIT	SYMBOL
Plane angle	radian	rad
Solid angle	steradian	sr

Derived Units

QUANTITY	UNIT	SYMBOL	DEFINITION
Force	newton	N	1 N = 1 kg.m/s ²
Energy	joule	J	1 J = 1 N.m
Power	watt	W	1 W = 1 J/s
Flux	weber	Wb	1 Wb = 1 V.s
Flux density	tesla	T	1 T = 1 Wb/m ²
Frequency	hertz	Hz	1 Hz = 1 c/s (s ⁻¹)
Electric conductance	siemens	S	1 S = 1 A/V
Electromotive force	volt	V	1 V = 1 W/A
Pressure, stress	pascal	Pa	1 Pa = 1 N/m ²

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